

**NATURAL RESOURCES CONSERVATION SERVICE
DOCUMENTATION AND CERTIFICATION**

**OPEN CHANNEL
Code 582**

The items below shall be recorded in the conservation plan, conservation notes or an approved form as minimum documentation requirements for a practice.

1. Location and Site Investigation

Environmental Checklist Form (CB-EVC-2)
Form CB-ENG-PLNG-1, Engineering Planning Consideration Checklist and Guide
Location Map (Topographic Quadrangles)
Aerial Photos
Surveying Plat (Property Limits)
Flooding Maps (FEMA)
SHPO - Cultural Resources Inventory
Maps from Utilities Co. Providers

References:

- TR-1, Form CB-ENG-PLNG-1, Engineering Planning Consideration Checklist and Guide
- NRCS, GM 420, Part 401, Cultural Resources
- USGS Topographic Quadrangles
- Conservation Plan Map

2. Soils/Geology Investigation

Geologic Maps
Soil Boring - Form CB-ENG-016, Site Investigation Log Sheet
Log Test Pit
Soil Testing Lab (optional)
Conservation Plan Soil Map

References:

- NRCS Area Soil Survey
- TR-1, Form CB-ENG-016, Site Investigation Log Sheet
- Unified Soil Classification Chart

3. Engineering Survey

Form SCS-ENG-28
Form SCS-ENG-29
Surveying Computer Programs

References:

- 210-VI-TR-62, Engineering Layout, Notes, Staking and Calculations
- 210-VI-NEH-650.01, NEH Chapter 1, Engineering Survey

4. Engineering Criteria

EFM-2 Computer Program
TR-55 Computer Program
HEC-RAS Computer Program

References:

- CB FOTG Sec. IV, Code 582, Open Channel
- 210-VI-NEH-650.02, EFH Chapter 2, Estimating Runoff and Peak Discharges
- 210-VI-NEH-650.07, EFH Chapter 7, Grassed Waterways
- 210-VI-NEH-630, NEH Part 630, Hydrology
- 210-VI-NEH-650.18, EFH Chapter 18, Soil Bioengineering
- TR-1, Form CB-ENG-012, Peak Rates of Discharge from Small Watershed
- 210-VI-TR-25 Appendix A, TR-25, Design of Open Channels
- 210-VI-TR-55, Urban Hydrology for Small Watersheds

5. Drafting and Drawings

Drafting Computer Programs Output
Sketches and Drawings

References:

- 210-VI-NEH-650.05, EFH Chapter 5, Preparation of Engineering Plans
- 210-VI-TR-73, Computer Aided Design and Drafting (CADD) Standards

6. Engineering Cost Estimates

References:

- CB FOTG Section I, Cost Data
- Local Suppliers Material Cost Lists

7. O&M and Safety

Operation and Maintenance Plan

References:

- OSHA Reference Manuals
- Manufacturer's Recommendations

8. Construction Materials and Specifications

References:

- 210-VI-NEH-650.17, EFH Chapter 17, Construction and Construction Materials
- 210-VI-NEH - Part 642, Specifications for Construction Contracts
- ASTM Standard Specifications

9. Installation and Certification

Certification that application meets NRCS standards and specifications

Reference:

- 210-VI-NEH-19, Section 19, Construction Inspection